

WEATHER IN THE UNITED STATES

THE WEATHER ELEMENTS

By M. C. BENNETT

GENERAL SUMMARY

During April the temperature in the northern and western sections of the country was above normal, while in the South from the Great Plains eastward to the Atlantic it was cool. The lowest temperature occurred during the early part of the month, and freezing weather was recorded in every State except Florida.

Precipitation for the month was below normal over much of the country. The greatest deficiencies occurred from the lower Mississippi Valley eastward, and in the western Lake region, the northern Great Plains and northern California, with some rather large areas receiving less than half the average for the month. On the other hand, precipitation much above the normal was noted in southern California and eastward to western Texas and New Mexico, some stations reporting the heaviest precipitation of record for April. Likewise the upper Ohio Valley, much of New York, Pennsylvania, the Virginias and Carolinas and the Florida Peninsula received more than normal.

TEMPERATURE

The general temperature situation in April was decidedly like that in March, each month averaging warmer than normal throughout northern and far western sections but cooler than normal elsewhere. However, different portions of April showed decided contrasts.

The opening week was generally colder than normal, but was warmer in the extreme Northeast, the upper Missouri Valley and the far West. Thereafter, for a fortnight, nearly all the country experienced warm weather, especially the north-central portion; but much of the Gulf section and part of the far Northwest were slightly cooler than normal.

The final decade of April was colder than normal in nearly all the country, particularly from the western Plains eastward to the Appalachian Mountains; but the Pacific States and much of the Plateau region and Florida averaged warmer than normal.

April averaged almost 5° colder than normal in Texas, where it was slightly colder than the coldest previous April in the 40-year period of State-wide record, and generally from central New Mexico and western Kansas eastward to the south Atlantic and southern middle Atlantic coast it was somewhat colder than normal. In the northern portion of the country and west of the Continental Divide, the month averaged warmer than normal, the greatest excesses, over 3° per day, being noted in Minnesota and California. At Los Angeles and Sacramento, Calif., it was the hottest April of record, and very nearly the hottest at Yuma, Ariz.

The highest temperatures were recorded usually during the period from the 8th to the 19th, but in the far Northwest and part of the south Atlantic area during the last five days of the month. A few stations in Arizona and California recorded temperatures above 100°, while in about half of the States the marks were 90° or higher. Most of the northern border, Ohio Valley, and Atlantic States recorded no marks quite as high as 90°.

The lowest temperatures occurred usually during the opening week, save in California, part of the Plains, and a few eastern States at various dates during the final decade. Florida, which recorded 33° at one station, was the only State entirely without freezing weather, but only in Michigan, Colorado, Wyoming, Montana, and Idaho, were marks below zero reached at any stations.

PRECIPITATION

The first week of April brought considerable rain to Washington and portions of the States adjoining, also in the eastern half to many portions of the Atlantic and East Gulf States and the upper and middle Ohio Valley. The second and third weeks were less rainy, viewing the country as a whole; but the far Northwest had moderate amounts till about the 18th, while from northern Arkansas to southern Minnesota most counties had considerable rain and the greater part of the Florida peninsula was visited by heavy downpours about the 15th.

From the 22d onward the rainfall was mainly more plentiful and more widely distributed, although the far Northwest and many north-central districts had either none or very little. Considerable portions of southern California and Arizona received heavy rains for the region and the time of year. The Rio Grande Valley and most of the middle Plateau and Rocky Mountain regions had much precipitation, likewise a broad area from Texas northeastward to and including the Appalachian region, the Ohio Valley, and the lower Lake region.

The month's precipitation was less than normal in about three-fourths of the States, yet there were many favorable features. The largest amounts, slightly over 10 inches, were reported from a few stations in Washington and Florida. Practically throughout the Ohio Valley, Virginia, Maryland, and New Jersey there was at least 1.5 inches at every station, and in a large part of the Ohio Valley and the vicinity of Lake Erie, the monthly precipitation was greater than normal for the first time in more than a year. Most of Virginia and of the central and western portions of the Carolinas had more rain than normal, and almost all of the Florida Peninsula a marked excess.

West of the Mississippi River there was more precipitation than normal in considerable portions of Arkansas, Oklahoma, and Kansas, almost throughout the drainage area of the Rio Grande, and in the southern portions of Arizona and California. At El Paso, Tex., 2.24 inches fell, more than eight times the normal April quantity, and 160 per cent of the greatest previous April fall in a record of more than 50 years. Los Angeles measured 3.02 inches, practically three times the normal, all of it within the space of six days, 22d to 27th, and almost three-fifths of it within 24 hours.

The inset on Chart V shows the departure from the normal for the month. As there shown the precipitation was considerably less than normal in the vicinity of the lower Mississippi River and in the upper Lake region and thence westward to northwestern Nebraska, the northeasternmost part of Wyoming, and the central portion of Washington. In the northern half of California the precipitation was decidedly deficient, save in the region of the Sierra Nevada Mountains.

SNOWFALL

The April snowfall was considerable over most portions of New York and eastern Ohio, in western and northern Pennsylvania, and the mountainous portions of Maryland, the Virginias, and North Carolina. On the other hand, the upper Lake region had comparatively little, and the greater part of the upper Mississippi and lower Missouri Valleys had either none whatever or too little to be measured.

In northwestern Kansas, the western half of Nebraska and much of South Dakota there was considerable snow, chiefly after the 20th of the month.

In the elevated portions of the regions near or to westward of the Continental Divide, the snowfall was mainly much below normal in the northern area and somewhat below in the southern. Certain districts in about latitudes 37° to 43° had considerable snowfall, especially the Sierra Nevada region.

SUNSHINE AND RELATIVE HUMIDITY

Rather abundant sunshine prevailed generally during the month in the northern and central areas from the Great Plains eastward to the Atlantic and in the Pacific regions from southern Washington to central California. On the other hand, the sunshine was deficient throughout much of Texas, Oklahoma, eastern Colorado, and New Mexico. Elsewhere it was generally near or slightly below the normal. The relative humidity was above the average from southern Arizona eastward to central Texas and Oklahoma. The plus departures were rather large in some of the areas, as would be expected from the large amount of precipitation received in those regions. Elsewhere the relative humidity was generally near or slightly below the normal.

SEVERE LOCAL STORMS, APRIL, 1931

[The table herewith contains such data as have been received concerning severe local storms that occurred during the month. A more complete statement will appear in the Annual Report of the Chief of Bureau]

Place	Date	Time	Width of path, yards	Loss of life	Value of property destroyed	Character of storm	Remarks	Authority
Cattaraugus, Allegany, and Wyoming Counties, N. Y.	2					Snow	Trees, telephone and power lines considerably damaged.	Official, U. S. Weather Bureau.
Pittsburgh, Pa., and vicinity	3-4					Thunderstorm and heavy rain.	25 persons marooned on island; basements flooded; other property damage.	Do.
Havre, Mont., and vicinity	7-9					Wind	Minor damage to windows and signs; considerable loss by blowing soil.	Do.
Clark and Comanche Counties, Kans.	15	2-4 p. m.	9 mi.			Heavy hail	Character of damage not reported; path 19 miles long.	Do.
Edwards County, Kans.	15	4 p. m.	5 mi.		\$10,000	do.	Character of damage not reported; path 10 miles long.	Do.
Pawnee County, Kans.	15	P. m.				do.	Damage heaviest near Rozel; character not reported.	Do.
White Signal, N. Mex.	16	1-1:30 p. m.	1,760-3,520			do.	Roofs considerably damaged; gardens destroyed.	Do.
Adair County, Iowa	18	4:30-5:30 p. m.			10,000	Wind, hail and probably a tornado.	Character of damage not reported	Do.
Dallas County, Iowa	18	P. m.	1,760		6,000	Hail	Buildings and crops damaged; path 3 miles long.	Do.
Lawrence, Monroe, Pike, and Wayne Counties, Miss.	19	P. m.				do.	Considerable damage, character not reported.	Do.
Indianapolis, Ind. (7 miles south of)	20	A. m.				Thunderstorm	3 horses killed; truck and quantity of hay, feed, and other grains destroyed.	Do.
Washington and Oregon	21-23					Wind and dust	Severe injury to fruit blooms, vegetables, and truck; grains blown out; timber and communication lines prostrated.	Do.
Lynchburg, Va.	22	12:15-12:30 p. m.	50		4,500	Tornado	Roofs blown from 24 houses; 1 small building demolished.	Do.
Utah (northern)	22-23					Wind and sand	Overhead wires and trees blown down; 11 freight cars blown from track; many residences damaged and several small buildings wrecked; crops injured; traffic delayed.	Do.
Pallisade, Vineland, and Upper Orchard Mesa, Colo.	24	12.1 p. m.			12,000	Hail	Apricots considerably damaged; other fruits slightly injured.	Do.
Hosston to Gigaland, La.	25	9 p. m.	2-6 mi.		10,000	Thundersquall, hail, and tornado wind.	Buildings and crops damaged; much replanting required; path 55 miles.	Do.
Marletta to Kildare, Tex.	25		3,520			Hail	Corn and fruit severely hurt.	Do.
Belen, N. Mex.	27	3:30 p. m.			2,000	do.	Roofs, orchards, and gardens damaged.	Do.
El Paso, Clint, and Sanderson, Tex.	28-29		1,760			Thunderstorm and hail.	Young crops destroyed; auto tops pierced; livestock killed; path 315 miles long.	Do.
Little Rock, Ark.	30					Severe thunderstorm.	Small buildings floated from foundations; plate glass broken.	Do.

RIVERS AND FLOODS

By MONTROSE W. HAYES

There were more overflows in April, 1931, than in any other month since June, 1930, but those east of the Rocky Mountains were of minor importance.

Mild weather and rain near the middle of the month produced stages that were slightly above bankful in the Connecticut River, the Chenango (in New York) and the upper Susquehanna (in New York). There was no damage attendant upon the overflows. Some merchandise, valued at \$25,000, in Hartford, Conn., was saved

by being moved to a safe place before the overflow arrived.

Bankful stages were reached by some of the rivers in eastern North and South Carolina, western Alabama, northern Missouri, western Pennsylvania, and southeastern Ohio. The overflows were slight and the reported property damage was small, but three persons were drowned in Ohio.

Roads were damaged to an indeterminate extent by Pawnee Creek, in Pawnee County, Kans.

Floods in Oregon and Washington were of greater consequence than any of those east of the Rocky Moun-